SERJAHGE CONSULTANTS
CC/2020/0010007

Draft Environmental Management Plan (EMP)

The Proposed Exploration Activities on Exclusive Prospecting Licenses (EPLs) No. 9885 & 9985 near Arandis Town in the Erongo Region

MEFT Application No.: **APP-005192**

Proponent: **Tarah Hainana**

P. O. Box 3039 Windhoek, Namibia

September 2025

DOCUMENT INFORMATION

Title: Draft Environmental Management Plan (EMP) for the Proposed Exploration Activities on Exclusive Prospecting Licenses (EPLs) No. 9885 & 9985 near Arandis Town in the Erongo Region

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Signature:	
Date:	September 2025

SERJA'S STATEMENT OF INDEPENDENCE

As the Appointed Environmental Consultant to undertake the Environmental Scoping Assessment (ESA) Study and Preparation of this Draft Environmental Management Plan (EMP) for the proposed Exploration Activities on Exclusive Prospecting Licenses (EPLs) No. 9885 & 9985 near Arandis Town in the Erongo Region, Serja Hydrogeo-Environmental Consultants cc declare that we:

- do not have, to our knowledge, any information or relationship with the Proponent (Mr. Tarah Hainana), the Ministry of Environment, Forestry and Tourism (MEFT)'s Department of Environmental Affairs and Forestry (DEAF) or the Competent Authority (Ministry of Industries, Mines and Energy (MIME) that may reasonably have potential of influencing the outcome of this Environmental Assessment and the subsequent Environmental Clearance Certificate applied for.
- have knowledge of and experience in conducting environmental assessments, the Environmental Management Act (EMA) No. 7 of 2007, and its 2012 Environmental Impact Assessment (EIA) Regulation, as well as other relevant national and international legislation, guidelines, policies, and standards that govern the proposed project as presented herein.
- have performed work related to the ECC application in an objective manner, even if the results in views and findings, or some of these may not be favorable to the Proponent.
- have complied with the EMA and other relevant regulations, guidelines, and other applicable laws as listed in this document.
- declare that we do not have and will not have any involvement or financial interest in the undertaking/implementation of the proposed project, other than remuneration (professional fees) for work performed to conduct the ESA and apply for the ECC in terms of the EIA Regulations' requirement as an Environmental Assessment Practitioner (EAP).

Disclaimer: Serja Hydrogeo-Environmental Consultants will not be held responsible for any omissions and inconsistencies that may result from information that was not available at the time this document was prepared and submitted for evaluation.

…….

Signature:

Fredrika N. Shagama: Principal Environmental Assessment Practitioner & Hydrogeologist

Date: September 2025

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF APPENDICES

LIST OF ABBREVIATIONS

DEAF: Department of Environmental Affairs and Forestry

DWA: Department of Water Affairs

ECC: Environmental Clearance Certificate

ECO: Environmental Control Officer

EIA: Environmental Impact Assessment

EMA: Environmental Management Act

EMP: Environmental Management Plan

EPL: Exclusive Prosecting License

ESA: Environmental Scoping Assessment

GG: Government Gazette

GN: Government Notice

I&APs: Interested and Affected Parties

MAFWLR: Ministry of Agriculture, Fisheries, Water, and Land Reform

MEFT: Ministry of Environment, Forestry and Tourism

MIME: Ministry of Industries, Mines and Energy

NHC: National Heritage Council

OGTA: Oe-Gan Traditional Authority

PPE: Personal Protective Equipment

SHE Officer: Safety, Health & Environment Officer

TA: Traditional Authority

1 INTRODUCTION

1.1 Project Background and Location

Tarah Hainana (hereinafter referred to as the Proponent) applied to the Ministry of Mines and Energy (MME) (now Ministry of Industries, Mines and Energy (MIME)) for the exploration rights on two Exclusive Prospecting Licences (EPLs), i.e., EPL-9885 and EPL-9985, on the 20th of December 2023 and 3rd of April 2024, respectively. However, the approval of the EPLs is subject to an Environmental Clearance Certificate (ECC) as per the status of the EPL applications on the Namibia Mines and Energy Cadastre Map Portal https://portals.landfolio.com/namibia/ (''pending ECC''). The two EPLs have the potential for nuclear fuel minerals (uranium). Thus, upon granting the EPL rights by the MIME, the Proponent intends to prospect and explore within the boundaries of the EPLs. EPL-9885 covers an area of 23,073.1506 hectares (Ha), whereas EPL-9985 covers an area of 19,978.5782Ha (totalling a combined area of 43,051.7288Ha). EPL-9985 is about 20km northeast of Arandis, and EPL-9885 is about 40km further northeast of Arandis and stretches towards Grootspitskop (Spitzkoppe) in the Erongo Region - Figure 1-1. Both EPLs are within the #Gaingu Conservancy (Figure 1-2) under the Oe-Gan Traditional Authority.

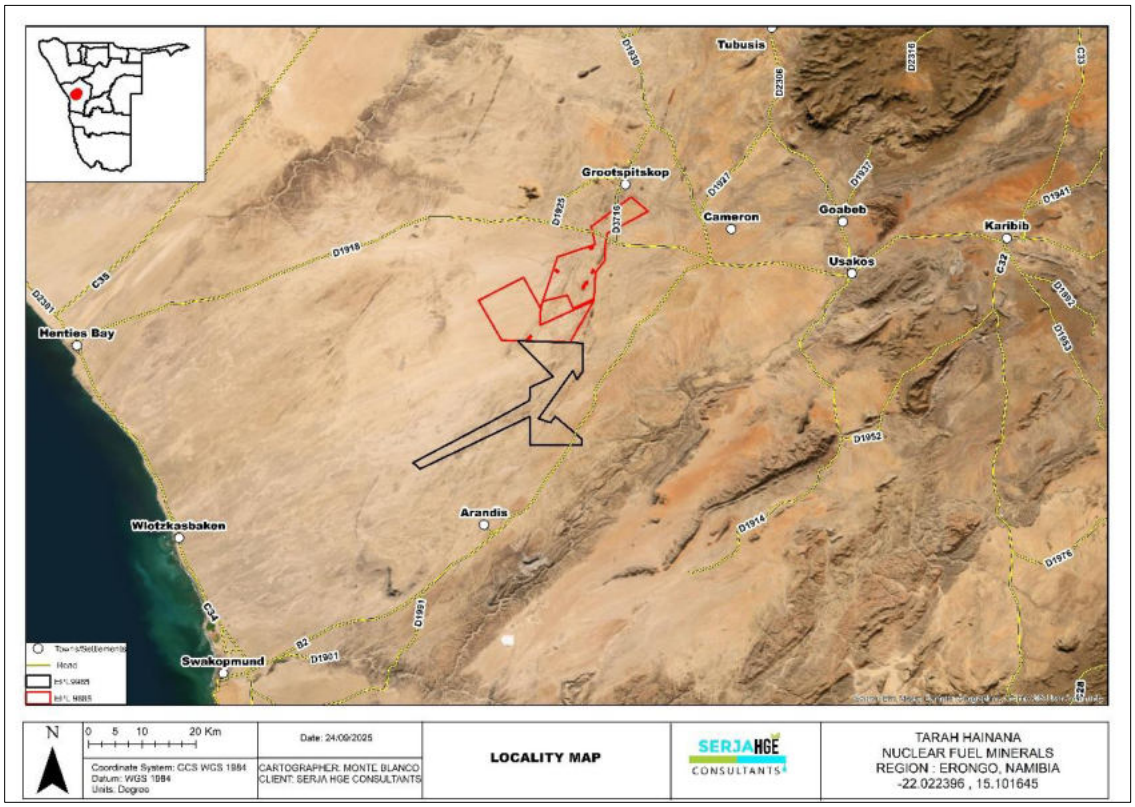

Figure 1-1: Locality Map of EPL-9885 and EPL-9985 near Grootspiskop (Spitzkoppe) and Arandis, respectively, in the Erongo Region

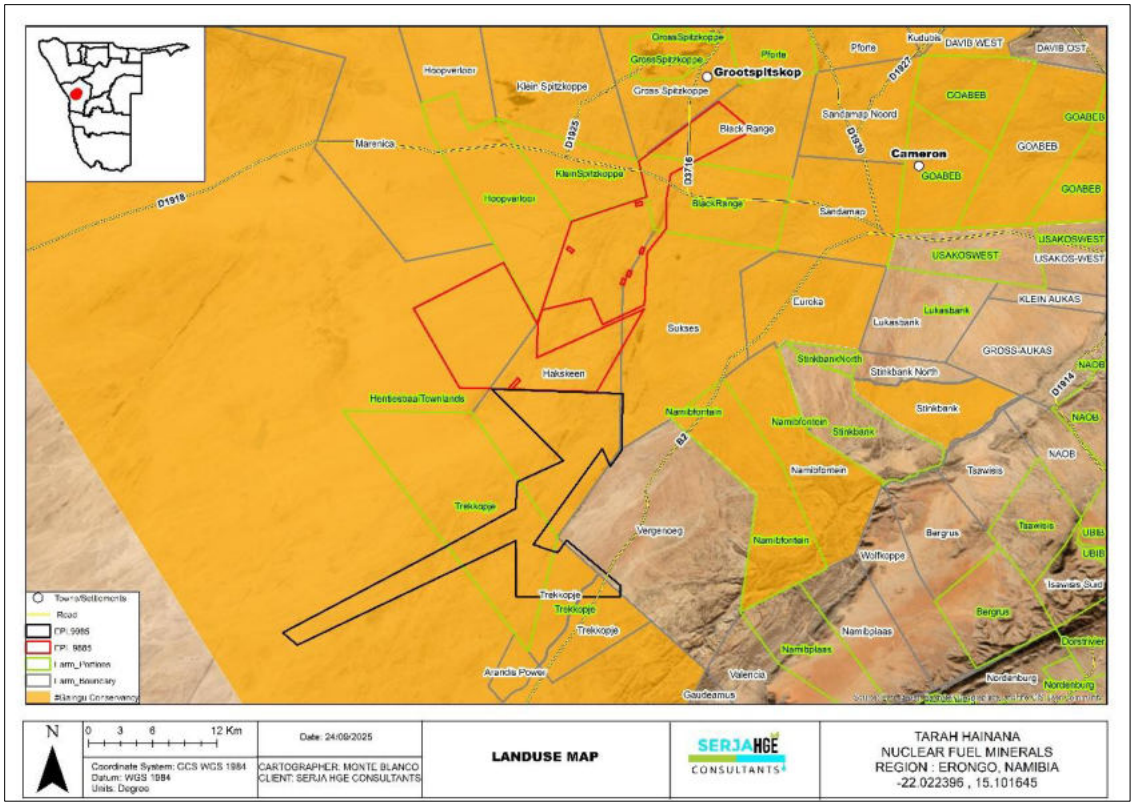

Figure 1-2: The location of EPL-9885 and EPL-9985 within the #Gaingu Conservancy

1.2 Purpose of the Draft Environmental Management Plan (EMP)

The Draft EMP was developed following Regulation 8(j) of the EIA Regulations (2012), which states that it should be included as part of the Environmental Assessment (EA) scoping report. A '**Management Plan**' is defined as:

> *"…a plan that describes how activities that may have significant environmental effects on the environment are to be mitigated, controlled, and monitored."*

An EMP is one of the most important outputs of the EA process as it synthesizes all the proposed management & mitigation, and monitoring actions, set to a timeline and with specific assigned responsibilities. It provides a link between the impacts identified in the EA process and the required mitigation measures to be implemented during exploration. It is important to note that an EMP is a statutory document, and a person who contravenes the provisions of this EMP may face imprisonment and/or a fine. This EMP is a living document and can be amended to adapt to address project changes and/or environmental conditions and feedback from compliance monitoring.

The EMP is therefore aimed at guiding environmental management throughout the different phases of the proposed exploration activities, namely: planning, prospecting & exploration, and decommissioning & rehabilitation phase:

- **Planning phase** – Preparation of all the administrative and technical requirements needed for the actual works on the ground. The planning would entail obtaining the necessary permitting and authorization from relevant national and local stakeholders (such as affected land custodians/users), facilitating the recruitment and procurement processes, etc.
- **Exploration phase –** The stage during which actual groundwork (prospecting and exploration activities) and associated activities are conducted within the EPLs.
- **Decommissioning and Rehabilitation** – The stage during which the Proponent is rehabilitating the disturbed sites, regardless of the results of exploration activities.

2 BRIEF DESCRIPTION OF THE PROPOSED PROJECT ACTIVITIES

It should be noted that this EIA Study is for exploration activities ONLY and not mining because mining cannot be done on EPLs. This means that if exploration yields economically feasible results, mining licenses would be applied for after exploration, of which different EIA Studies would be conducted to apply for mining licenses, i.e., to convert EPLs into mining licenses at a later stage.

Before undertaking the proposed activities on the EPLs, the Proponent must obtain consent and sign land use agreements with the Oe-Gan Traditional Authority and the Gaingu Conservancy.

The anticipated duration of the proposed prospecting and exploration activities is between six (6) and twenty-four (24) months. However, should the anticipated timeframe turn out to be insufficient or, depending on the exploration findings, by the end of 24 months, this may be stretched longer for some more months and communicated with the relevant stakeholders.

2.1 Duration of the Proposed Prospecting and Exploration Works

The exploration programmes are based on an iterative, results-driven, and phased nature. Therefore, it is not possible at an early stage of exploration to give exact areas for future drilling or an exact duration of the exploration activities (Resilient Environmental Solutions, 2019).

Soil sampling programmes, for instance, may last from one week to a month at a time over specific areas, until the explored area is fully sampled as desired. Drilling programmes may initially range from two weeks to a month at a time, depending on the planned programme or based on the results of the programme. The Proponent undertakes to work with all relevant stakeholders to keep them informed of exploration progress to facilitate site visits and access to ongoing field exploration programmes.

In general terms, the minerals exploration activities can take up to a maximum of seven years, with different projects at various stages of the exploration phase (Resilient Environmental Solutions, 2019).

The Proponent intends to adopt a systematic and standard prospecting and exploration approach for the exploration of the mineral resources/commodities (Nuclear Fuel Minerals) potentially occurring on the EPLs. The exploration methods are presented in the ESA Report, but are also summarized below.

2.2 Planned Exploration Methods

The proposed activities will be done using both non-invasive and invasive techniques, as summarized below and detailed under Chapter 2 of the ESA Report:

- Desktop Study (non-invasive): Literature review, mapping, and aero surveying (geophysics).
- Soil and rock sampling (invasive): collection of soil and rock samples.
- Detailed exploration (invasive): Trenching, and drilling (Reverse Circulation (RC) and diamond drilling).

2.3 Project Resources and Services Infrastructure

The following services and infrastructure, as provided below, will be required for the project activities.

2.3.1 Human resources

The prospecting stage will require, but not be limited to, one or two geologists, a GIS specialist, and a geophysicist to collect the data. During the detailed (invasive) exploration stage, the project crew will consist of about 8 people, comprising 2 to 3 skilled (geologist and geotechnician), 2 semi-skilled, and 4 or more casual workers (assistants). However, this number may vary depending on the actual workload and requirements on-site. The workforce requirement will entail the need for geologist(s), drilling personnel, sampling team, supervisor/exploration manager, casual workers to clear the sites and perform other required jobs onsite, cleaner(s), machine operator, truck & light vehicle drivers, etc.

2.3.2 Project Crew Accommodation

Accommodation: Exploration (mainly drilling) workers will be housed in Arandis and surrounding communities – hence, it is recommended to hire as many locals (from Spitzkoppe and nearby farms) as possible for the work they can do. This is to minimize the number of outsiders who may need accommodation. Out-of-area workers with specialized skills for exploration would be accommodated in the nearest local accommodation facilities in Arandis and Usakos through rentals.

2.3.3 Project Equipment, Material, Machinery, and Vehicles

The following equipment and machinery will be required for the exploration stage:

- A minimum of two (4X4) pickup trucks (vehicles), and a heavy truck,
- Air compressor,
- Drill rigs and drilling machines

- Two-way radios (for communication),
- Water supply tanks with dispersion pipelines, and a fuel bowser,
- Power generators (minimum two), and
- Biodegradable drilling fluids stored in manufacturer-approved containers.

Equipment and vehicles will be stored at a designated area near the accommodation site (campsite) or a storage site established within the site areas of the EPLs.

2.3.4 Water Supply

During exploration, onsite water will be required for cooling down and washing of equipment, exploration-related activities such as drilling, test quarrying, and domestic (drinking, cooking, and ablution). For exploration-related activities such as cooking, drinking, and personal use, about 300 litres of water will be required per week (1,200 litres per month). Exploration drilling, specifically diamond drilling, requires a lot of water, and it would require approximately 10,000 to 25,000 litres (10 to 25m^3) per day, in instances where, for example, fractured formations are encountered per hole during drilling.

The required water will be used for actual detailed exploration activities, such as cooling down and washing drilling equipment, and domestic use (ablution, drinking, and cooking). The water will be supplied from reliable sources around the EPLs, such as purchasing from the Arandis or Usakos Town Council (through a water supply agreement with the Council).

2.3.5 Fuel supply (For Cooking)

The Proponent will provide a 10kg liquid gas cylinder to be used for food preparation by the site workers. Therefore, no project-related firewood will be collected from the Conservancy.

2.3.6 Fuel Supply (Machinery and Equipment)

Diesel will be used for machinery and equipment, and a fuel generator. A trailer-mounted and bunded 10,000-litre fuel tank will be on-site to ensure an uninterrupted fuel supply to the project activities.

2.3.7 Accessibility (roads)

The two EPLs can be accessed from the B2 road via local area access roads. EPL-9885 can be accessed from the Spitzkoppe side by two gravel roads, D3716 and D1925. If needed, further tracks that may be required to access certain areas for exploration will be created, upon approval and in consultation with the local authority/land custodian and Conservancy, as well as the landowner, before creating new tracks.

2.3.8 Waste management

The onsite waste types will be managed as follows:

- Sewage: Portable ablution facilities with septic tanks will be provided on site and emptied according to manufacturers' instructions.

- General and domestic waste: Sufficient waste bins (containers) will be available at both exploration sites and campsites for waste storage. The waste containers will be emptied into the main onsite container for disposal at the nearest approved landfill site, upon reaching a waste disposal agreement with the Usakos and or Arandis Town Councils.
- Hazardous waste: All vehicles, machinery, and fuel-consuming equipment will be provided with drip trays to capture potential fuel spills and waste oils. The waste fuel/oils will be carefully stored in a standardized container to be disposed of at the nearest approved hazardous waste management facility, such as Walvis Bay or Windhoek.

2.3.9 Health and Safety

The following measures will be implemented onsite to ensure safety and security:

- Adequate and appropriate Personal Protective Equipment (PPE) will be provided to every project personnel and visitor/inspector while on and working at the site and visiting the site, respectively.
- First aid: A minimum of two first aid kits will be readily available at exploration and camp sites to attend to potential minor injuries, while major injuries will need to be attended to further by transporting the injured to the nearest health centre for treatment. At least 2 personnel will be trained to administer first aid.
- Potential Accidental Fire Outbreaks: As a control measure for accidental fire outbreaks, basic firefighting equipment, i.e., a fire extinguisher, will be readily available in vehicles, at the working sites, and at campsite (accommodation units). The site personnel will be trained in and provided with firefighting skills.
- Open exploration trenches and boreholes: The trenches dug for sampling will be temporarily fenced off to prevent potential injuries to mainly wildlife in the area. Once sampling is completed, the trenches will be progressively backfilled and levelled, and fencing will be removed for storage or donation to the land custodians for the communities. Similarly, for exploration boreholes that are no longer required after rock samples, they will be backfilled and closed off. Warning signage at hazardous site areas, such as open trenches, will be erected

2.4 Decommissioning and Rehabilitation of Disturbed Sites

Once the exploration activities on the EPLs are completed, the Proponent will need to put site rehabilitation measures in place. To ensure the project activities are ceased in an environmentally friendly manner and the site is rehabilitated by carrying out the following:

- Dismantling and removal of campsites and associated infrastructures from the project site and area,
- Carrying away all exploration equipment and vehicles, and
- Clean up of site working areas and transporting the recently generated waste to the nearby approved waste management facility (as per agreement with the facility operator/owner),

Further decommissioning and rehabilitation practice onsite will include:

- Backfilling of pits and trenches used for sampling,
- Closing and capping of exploration boreholes to ensure that they do not pose a risk to both people and animals in the area, and
- Levelling of stockpiled topsoil. This will be done to ensure that the disturbed land sites are left as close to their original state as possible.

3 LEGAL FRAMEWORK: PERMITTING AND LICENSES

The Proponent has the responsibility to ensure that the exploration activities, as well as the EA process, conform to the principles of the EMA and must ensure that employees act in accordance with such principles. Table 3-1 below lists the requirements of an EMP as stipulated by Section 8 (e) of the EIA Regulations, primarily on specific approvals and permits that may be required for the activities required of the EPLs.

Table 3-1: List of legal requirements and permits for the activities of the EPLs

Legislation/Policy/ Guideline	Relevant Provisions	Implications for this project
Environmental Management Act EMA (No 7 of 2007)	Requires that projects with significant environmental impacts be subject to an environmental assessment process (Section 27). Details principles that are to guide all EAs.	The EMA and its regulations should inform and guide this EA process. Should the ECC be issued to the Proponent, it should be renewed every 3 years, counting from the date of issue. Contact details at the Department of Environmental Affairs and Forestry (DEAF), Ministry of Environment, Forestry and Tourism (MEFT), Office of the Environmental Commissioner **Mr. Timoteus Mufeti** **Tel: +264 61 284 2701**
Environmental Impact Assessment (EIA) Regulations GN 28-30 (GG 4878)	Details requirements for public consultation within a given environmental assessment process (GN 30 S21). Details the requirements for what should be included in a Scoping Report (GN 30 S8) and an Assessment Report (GN 30 S15).	
Minerals (Prospecting and Mining) Act (No. 33 of 1992)	Section 48 (3): To enable the Minister to consider any application referred to in section 47, the Minister may (b) require the person concerned by notice in writing to (i) carry out or cause to be carried out such environmental impact studies as may be specified in the notice.	The Proponent should ensure that all necessary permits/authorization for the EPLs are obtained from the Ministry of Industries, Mines, and Energy (MIME). Contact person and details at the MIME (Mining Commissioner) **Mrs. Isabella Chirchir**

Legislation/Policy/ Guideline	Relevant Provisions	Implications for this project
		Tel: +264 61 284 8251.
Traditional Authority Act (Act No. 25 of 2000):	The Traditional Authorities should be involved in the planning of land use and development for their area.	The affected communal land falls under the Oe-Gan Traditional Authority (OGTA). Therefore, the DD TA should be consulted throughout. **Chief Immanuel Gaseb: OGTA (in Okombahe and Windhoek Offices)** **Tel: +264 61 297 5805**
Nature Conservation Amendment Act, No. 3 of 2017 The Parks and Wildlife Management Bill of 2008	The management of protected areas, to conserve biodiversity, should be promoted. Thus, consent to undertake exploration activities should be obtained from the management of the conservation areas.	The EPLs are within the #Gaingu Conservancy. Therefore, they should be engaged before and throughout the project implementation. The consent should be obtained from the Conservancy management, and land use agreements should be entered into before exploration activities start. Agreements and conditions set by the conservancy management should be compiled throughout the project cycle. **Ms. Victoria Festus: Conservancy Chairperson** **Tel: +264 81 456 9133**
Water Resources Management Act (No 11 of 2013)	Ensure that the water resources of Namibia are managed, developed, used, conserved, and protected in a manner that is. **Therefore, a Groundwater Abstraction & Use Permit should be applied for. A permit is required for all commercial and industrial water uses. Although exploration is not entirely commercial, the associated activities, such as drilling, fall under industrial activities; thus, a need to apply for an abstraction permit.**	The Water Permit should be applied for from the Ministry of Agriculture, Fisheries, Water, and Land Reform (MAFWLR) **Department of Water Affairs (DWA)** **Contact: Mr. Franciskus Witbooi Division: Water Policy and Water Law Administration Division** **Tel: +264 61 208 7158**

Legislation/Policy/ Guideline	Relevant Provisions	Implications for this project
	For any project wastewater planned for discharge into the environment, **a discharge permit should be applied for and obtained.**	**MAFWLR, DWA's Water Environment Division** **Contact: Ms. Elise Mbandeka** **Tel: +264 61 208 7167**
Forestry Act (Act No. 12 of 2001	The Act provides for the management and use of forests and forest products.	The Proponent will apply for the relevant permit under this Act if it becomes necessary to remove protected trees, such as the rock corkwood (*Commiphora saxicola*) and Quiver trees (*Aloidendron dichotomum*, formerly *Aloe dichotoma*). Contact the MEFT's Forestry Directorate Office in Windhoek **Mr. Johnson Ndokosho– Forestry Director** **Tel: +264 61 208 7666**
Petroleum Products and Energy Act (No. 13 of 1990) Regulations (2001)	Regulation 3(2)(b) states that "No person shall possess or store any fuel except under authority of a licence or a certificate, excluding a person who possesses or stores such fuel in a quantity of 600 litres or less in any container kept at a place outside a local authority area"	The Proponent should obtain the necessary authorisation from the MIME for the storage of fuel on-site (Consumer Installation Permit). **Mr. Carlo McLeod** (Ministry of Mines and Energy: Acting Director – Petroleum Affairs) Tel: +264 61 284 8291
National Heritage Act No. 76 of 1969	Call for the protection and conservation of heritage resources and artefacts.	Should any archaeological material, such as bones, unknown graves, old weapons/equipment, etc, be found on the EPLs, work should stop immediately, and the National Heritage Council (NHC) of Namibia must be informed as soon as possible. The Heritage Council will then decide to clear the area or decide to conserve the site or material. Contact Details at the National Heritage Council (NHC) of Namibia **Mrs. Erica Ndalikokule – NHC Director** **Tel: +264 61 301 903**

4 EMP IMPLEMENTATION RESPONSIBILITIES

Tarah Hainana (the Proponent) and his exploration partners (if any) are ultimately responsible for the implementation of the EMP. However, the Proponent may delegate this responsibility or part of it to someone else at any time, as they deem necessary. The roles and responsibilities of all delegates/parties involved in the effective implementation of this EMP are presented in Table 4-1.

Table 4-1: The EMP implementation responsibilities for prospecting and exploration

Role	Responsibilities
Tarah Hainana (Proponent) with Exploration Partners and or a Representative	-Managing the implementation of this EMP and updating and maintaining it when necessary. -Management and monitoring of individuals and/ or equipment on-site in terms of compliance with this EMP and issuing fines for contravening EMP provisions.
Exploration Manager	This individual will be responsible for ensuring that the exploration activities of the project are completed on time. The Manager's duties and responsibilities will include: -Ensure that relevant commitments contained in the EMP are adhered to. -Ensure relevant staff are trained in procedures entailed in their duties. -Maintain records of all relevant environmental documentation for the project. -Reviewing the EMP annually and amending the document when necessary. -Issuing fines to individuals who may be in breach of the EMP provision and, if necessary, removing such individuals from the site. -Cooperate with all relevant interested and affected parties/stakeholders. -Development and management of schedules for daily activities
Environmental Control Officer (ECO) / Safety, Health & Environment (SHE) Officer	The Proponent may assign the responsibility of ensuring EMP compliance throughout the project life cycle to a designated member of staff or an external qualified and experienced person, referred to in this EMP as the Environmental Control Officer (ECO) / SHE Officer. The ECO will have the following responsibilities: -Management and facilitation of communication between the Proponent, PR, and Interested and Affected Parties (I&APs) regarding this EMP. -Conducting site inspections of all areas concerning the implementation of this EMP (monitor and audit the implementation of the EMP). -Advising the Proponent or Exploration Manager on the removal of person(s) and/or equipment not complying with the provisions of this EMP. -Making recommendations to the PR for the issuing of fines for contraventions of the EMP. -Undertaking an annual review of the EMP and recommending additions and/or changes to this document.

Role	Responsibilities
Public Relations Officer (PRO)	The PRO will be responsible for the following tasks: -Liaising between the stakeholders, the public, and the Proponent. -Ensure effective communication with stakeholders, media (if necessary), and the public. -Organising and overseeing public relations activities, managing public relations issues. -Preparing and submitting public relations reports, if required. -Collaborating with personnel and maintaining project-related open communication among personnel.

5 ENVIRONMENTAL MANAGEMENT MEASURES

5.1 Key identified Potential negative Impacts

The key potential negative impacts identified, described, and assessed in the Environmental Scoping Assessment Report, for which the management measures (action plans) have been provided, are listed below:

Positive impacts:

- Local socio-economic development through temporary employment creation.
- Payment of land use fees to the Conservancy and Traditional Authority to assist in uplifting the communities within and near the EPLs
- Procurement of local goods and services for exploration by small and medium businesses to promote local entrepreneurship, empowerment, and local economic development.
- Assisting the anti-poaching team in the Conservancy with basic needs and other possible aids (donations) through the Conservancy (as per signed Memoranda of Agreements).

Negative (adverse) impacts:

- Physical land/soil disturbance,
- Impact on local biodiversity (fauna and flora); potential illegal harvesting of protected vegetation and wildlife hunting (poaching), and habitat disturbance in the area (Conservancy).
- Potential conflicts between the Proponent and small-scale miners who applied for or have Mining Claims (MCs) within the EPL boundaries.

- Potential impact on water resources and soils, particularly due to pollution.
- Visual impact from unrehabilitated explored areas on the EPLs may pose as an eyesore to travellers (including tourists) using the B2 and local access roads (D3716 and D1925).
- Accidental fire outbreaks related to the project activities.
- Air quality issue: potential dust generated from the project activities, such as drilling, possibly trenching, and movement of heavy trucks on unpaved access roads.
- Potential occupational health and safety risks (trenches and drilled holes risk to wildlife), and
- Vehicular traffic safety and impact on services infrastructure, such as local roads.
- Vibrations and noise associated with drilling activities could impact wildlife.
- Environmental pollution (solid waste and wastewater).
- Archaeological and heritage resources impact (during trenching and drilling.

5.2 Environmental Management Measures and Rehabilitation of Sites

The management actions are aimed at avoiding the above-listed potential negative impacts, where possible, and where it is impossible to avoid these impacts, measures are provided to reduce their significance.

The Management action plans (mitigation measures) recommended for the potential impacts rated in the ESA Study were based on the following project stages (phases):

- Planning, Prospecting, and Exploration phases (Table 5-1).
- Site Rehabilitation and Decommissioning (Table 5-2), and
- Biophysical and Social Environmental Monitoring (Table 5-3).

Table 5-1: The Environmental management and mitigation measures for Planning, as well as Prospecting and Exploration activities

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
Planning Phase					
EMP implementation and training	Lack of EMP awareness and implications thereof	-A Comprehensive Health and Safety Plan for the project activities should be compiled. -An EMP non-compliance penalty system should be implemented on-site. -The Proponent should appoint an Environmental Control Officer (ECO) or SHE Officer to be responsible for managing the EMP implementation and monitoring.	-All required EMP implementation Plans and Systems are compiled and in place. -ECO is appointed	-Proponent	Pre-exploration
Authorizations	Lack of Agreements, Permits/ Licenses	-All the required agreements and licenses or permits should be applied for and signed, respectively, before commencement of work on the EPLs, or as required. -The permits and agreements referred to herein include: (a) Land use agreement through Memoranda of Agreement (MoA) with the Oe-Gan and #Gaingu Conservancy. (b) Waste management disposal permits from the relevant facility operator/owner (c) Water supply agreements or groundwater abstraction & use permit (if abstracting directly from a borehole, river, or dam) (d) Fuel storage permit from MIME for petroleum stored onsite.	-Applicable permits and licenses to be obtained from relevant authorities. -MoA between the Traditional Authority and Conservancy is in place	-Proponent	Pre-exploration
Communication between the Proponent and land custodians/users	Lack of communication between land custodians/users and the Proponent concerning land use/access	-The Proponent should appoint a Public Relations Officer (PRO) to liaise with the authorities and land users. -A clear communication procedure/plan, which should include a grievance mechanism, should be developed.	-A PRO is appointed -Ongoing Consultation throughout the project, when and as required. -PRO contact details provided to land custodians -Complaint's logbook	-Proponent	PRO appointment (Before project activities) and their responsibilities throughout the project activities

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
Employment	Creation of employment opportunities	-Where possible, source the unskilled and semi-skilled labour for casual work from the local communities, such as Spitzkoppe and villages/farms near the EPLs. Out-of-area employment should be justified, for example, by the unavailability of local skills. -Contractors should give all unskilled and semi-skilled work to the locals before considering outsiders. This is to avoid the influx of outsiders into the area for work that can be done by the locals. -The anticipated work opportunities and number of positions should be announced through the local leadership offices (Daures, Karibib, Arandis constituencies, as well as the Oe-Gan Traditional Authority). -The names of the prospective workers should be screened by the local leaders to verify their place of origin to ensure that the opportunities reserved for the locals are not given to outsiders. -Where possible, the locals (such as graduates and youth) employed during exploration should be provided with the necessary training of skills required to avoid bringing in many out-of-area workers.	-Number of locals employed for exploration activities	-Proponent in collaboration with the Drilling contractors	Pre-exploration and, when necessary, throughout
Land use fees for socio-economic development	Local socio-economic development	-Commit to the conditions listed in the Memoranda of Agreements (MoA) signed with authorities such as the Oe-Gan Traditional Authority and #Gaingu Conservancy. -The payments of land use fees should be made as agreed.	-Proof of funds paid to the respective authorities' bank account and related records.	-Proponent	Pre-exploration and, when necessary, throughout
Specialised procurement of services and goods	Empowerment of local businesses	-All services related to exploration activities, such as trenching, site establishment, and drilling that the Proponent may need, preference, and available, locally and regionally, priority should be given to local and regional businesses for such services and goods.	-Number of hired contractors. -Record of hired or contracted companies or service providers	-Proponent -Exploration Manager	Pre-exploration
Presence of the exploration crew in the area	Combating/fighting anti-poaching	-Commit to assisting the #Gaingu Conservancy in fighting against poaching (crime against wildlife) while in the area by creating awareness among the project workers and the impact of such crimes on the host environment and the country at large.	-Proof of assistance rendered to the #Gaingu Conservancy in combating poaching in the area.	-Proponent -Exploration Manager	Pre-exploration and throughout the project phases

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
		-Report any suspicious activities related to wildlife crime to the Conservancy and the nearest Police. -Assist the Conservancy and, if needed, the wildlife rangers in the area with basic needs to use when in the field, where possible.			
Prospecting and Exploration Phase					
EMP implementation and training	Lack of EMP awareness and implications thereof	-EMP trainings should be provided to all workers on-site. -All site personnel should be aware of the necessary health, safety, and environmental considerations applicable to their respective work. -The implementation of this EMP should be monitored. The site should be inspected, and a compliance audit should be done throughout **the project activities, monthly, and biannually for overall EMP implementation.** -EMP non-compliance penalty system should be implemented.	-Records of EMP compliance/monitoring conducted biannually -The ECC is renewed every 3 years -Records of EMP training conducted.	-Exploration Manager -ECO	Throughout the exploration phase
Communication between the Proponent and land custodians/users	Lack of communication (proper liaison) between land custodians and the Proponent on land use	-The PRO should be introduced to the stakeholders, and their contact details should be provided to them before undertaking activities for easy communication. -The Proponent should compile a clear communication procedure/plan, which should include a grievance and response mechanism.	-PRO is part of the project personnel. -Records of stakeholders' continued consultation -Public grievances addressed to their satisfaction -Complaint's logbook	-PRO	Throughout exploration
Water Resources Use	Over-abstraction (water demand and availability)	-Water should be used efficiently, and recycling and reusing of water for certain site activities should be encouraged. -Consider carting water for drilling from elsewhere outside the site area to not put pressure on the available resources. Agreements for water supply should be made between the willing water supplier and the Proponent.	-Water supply agreements -Proof/ recording/ quantification of water saving efforts. -Water supplying agreements	-Proponent -Exploration Manager	Once-off supply agreement

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
		-If the carted water is directly abstracted from a certain borehole or boreholes, the Proponent should apply for a Groundwater Abstraction & Use Permit from the DWA of MAFWLR. -Water reuse/recycling methods should be implemented as far as practicable, such that the water used to cool off exploration equipment should be captured and used for the cleaning of project equipment, where possible. -Water storage tanks should be inspected daily to ensure that there is no leakage, resulting in wasted water on site. -Water conservation awareness and saving measures training should be provided to all the project workers to understand the importance of conserving water and become accountable.	-Water storage tanks on site		Throughout the exploration phase
Soils	Physical soil/land disturbance and loss of topsoil	-Stockpiled topsoil and drill materials should be used to backfill the excavated and disturbed site areas/spots. -The topsoil that was stripped from certain site areas to enable project works and can be returned to its initial position should be returned. This is to avoid unnecessary stockpiling of site soils, which would leave them prone to erosion. -Soils that are not within the intended footprints of the site target areas should be left undisturbed, and soil conservation implemented as far as possible. -Project vehicles/machinery should stick to access roads provided and not unnecessarily create further tracks on and around the site by driving everywhere, resulting in soil compaction and erosion. -Off-road driving in the project site areas (EPLs) is strictly prohibited. Stick to approved site access roads by the Conservancy.	-No proliferation of informal vehicle tracks created by project activities. -No new erosion gullies. -No complaints from the Conservancy or other stakeholders about the unnecessary creation of tracks in the area (visual nuisance).	-Exploration Manager -ECO	Throughout exploration
Soils and water resources	Soils and water resources pollution	-Spill control preventive measures should be in place on site to manage soil contamination, thus preventing and or minimizing the contamination from reaching water resources.	-No complaints of pollutants on the soils and	-Exploration Manager -ECO	Throughout the exploration phase

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
		-Sensitize project employees about the impacts of soil pollution and advise them to follow appropriate fuel handling procedures. -Develop and prepare countermeasures to contain, clean up, and mitigate the effects of an oil spill. This includes keeping spill response procedures and a well-stocked cache of supplies easily accessible. -Ensure employees receive basic Spill Prevention, Control, and Countermeasure (SPCC) Plan training. -Project machines and equipment should be equipped with drip trays to contain possible oil spills when operated on site. -Polluted soil should be removed immediately and put in a designated waste-type container for later disposal. -Drip trays must be readily available on this trailer and monitored to ensure that accidental fuel spills along the tank trailer path/route around the exploration sites are cleaned on time (soon after the spill has happened). -Polluted soil must be collected and transported away from the site to an approved and appropriately classified hazardous waste treatment facility. -Washing of equipment contaminated with hydrocarbons, as well as the washing and servicing of vehicles, should take place at a dedicated area, where contaminants are prevented from contaminating soil or water resources. -Toilet water should be treated using chemical portable toilets and periodically emptied before reaching capacity and transported to a wastewater treatment facility.	eventually in the water due to exploration activities -No visible oil spills on the ground or pollution spots. -Complaint's logbook -Availability of waste containers -Non-permeable material to cover the ground surface in areas where hydrocarbons and potential pollutants are utilized.		
Biodiversity	Loss of Fauna and Flora	**<u>Fauna (livestock/domestic and wild animals)</u>** -Refrain from disturbing or killing small soil and animal species found in rock outcrops on and around the site. -Breeding sites for occurring on and around the EPLs should not be destroyed or disturbed.	-No disturbance to unmarked areas. -No complaints from locals regarding unauthorised	-ECO	Throughout the exploration phase

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
		-Exploration trenches and boreholes should be secured (temporary fencing) and backfilled and capped after sampling is completed to prevent animals (both livestock and wildlife) from falling into trenches. -Incorporate Environmental awareness and biodiversity preservation into the employment contracts of all workers. **<u>Flora (vegetation):</u>** -Avoid unnecessary removal of the already scarce vegetation to promote a balance between biodiversity and the project. -Vegetation found on the site, but not in the targeted exploration site areas or access route, should be left undisturbed/avoided. -Vehicle movement should be restricted to existing roads and tracks to prevent unnecessary damage to the surrounding vegetation. -Protected vegetation species such as the rock corkwood (*Commiphora saxicola*) and Quiver trees (*Aloidendron dichotomum*, formerly *Aloe dichotoma*) shown in Appendix 2 should be avoided. If it becomes necessary that some of these need to be removed, the necessary permits should be obtained from the Forestry Directorate before removal. -No onsite vegetation should be cut or used for firewood. -Access roads should be created in a manner that disturbs minimal vegetation. -Environmental awareness on faunal and floral biodiversity preservation should be provided to the workers and contractors. This should be incorporated into the workers' contracts.	vegetation removal or cutting down of trees. -No complaints of wildlife hunted by the project workers. -No intentional disturbance and destruction of site vegetation and faunal species -Barricading tape (to indicate working areas) -Visible preservation of onsite vegetation		
Illegal hunting	Illegal hunting of wildlife	-The Poaching (illegal hunting) or disturbance/harming of wildlife on the EPLs and surrounding areas is strictly prohibited. -A No Tolerance to Poaching Policy should be developed and applied to all site personnel (workers) as well as project visitors.	-Proven incident reports of illegal hunting of wildlife by the crew were reported to the Police.	-Exploration Manager -ECO	During site setup and throughout exploration

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
		-Incorporate a No-tolerance rule for poaching in every employment contract and ensure that the workers understand the seriousness of this. In other words, there is no tolerance for poaching or wildlife crime.	-Contact details of the Anti-poaching Police Unit are provided and visible on-site		
Land Use	Conflict between land uses and exploration activities	-Exploration activities should not in any way hinder the existing land uses within the EPLs but rather promote co-existence throughout the project operations while respecting other land users (Conservancy and related operations). -Limit the project activities to the actual active sites of the EPLs only, but do not unnecessarily wander and drive around the area. -Ensure that the project activities comply with the conditions set by the competent, regulatory, and affected authorities, such that the proposed exploration activities do not severely impact the different existing activities around the EPLs.	-Land use permits/authorizations. -Compliance with conditions set within operational permits by relevant and affected authorities. -Little to no complaints of significant interference from the neighbouring land users	-Exploration Manager -Proponent -ECO	Throughout the exploration phase
Communication and Cooperation between the Proponent and small-scale miners (Mining Claims (MCs)) owners/applicants	Lack of communication, understanding, and cooperation between the Proponent and the MCs' owners.	-The legal and approved MC owners, as well as aspiring MC applicants within the EPLs, should be educated about their rights to mine in an area, even if it is inside the EPLs. However, work should be limited to within their Mining Claims boundaries only. -The Mining Claim owners or new applicants in the area and within the EPLs should be respected. -Promote open communication, transparency and cooperation. -If needed, enter into agreements of operation with willing individual MC owners to ensure peaceful and transparent working relationships. This agreement should be signed in the presence of a local leader as a witness.	-The small-scale miners are educated on the rights and boundaries of their MCs -There are no crashes or conflicts between the Proponent and the MCs' owners -Where needed, there are signed working/operational agreements between the Proponent and MC owners within the EPLs. -Complaints are recorded in the Grievance logbook	-Exploration Manager -PRO or Proponent Representative	Before exploration and when necessary, throughout the exploration phase
Visual (aesthetic)	The scarring of the landscape and the presence of exploration	-The exploration activities should be done away from the roads, and the explored sites rehabilitated as far as possible.	-No complaints of visual nuisance from the travellers or Conservancy	Exploration Manager	Throughout the exploration phase

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
	vehicles and machinery may impact the scenic view of the area for tourists and travellers on the roads.	-Concentrated stone block sampling in the areas behind the mountain that overlook the local roads. In other words, exploration activities that are likely to leave visible scars on the hills or mountains should be done in areas behind these mountains and not in the areas that are visible from the road. -Minimize the land scarring by targeting specific areas only. -The campsite should be established behind outcrops where possible to limit their obvious presence to road users (tourists and travellers alike).	-No disturbed site areas are left without rehabilitation -Exploration works are limited to areas far from the roads.		
Road use and safety	Increase in vehicular traffic flow.	-Project-related goods and services should be delivered to the site once or twice a week to reduce the daily movement of trucks and put too much pressure on local roads. -Drivers of all project phases' vehicles should have valid and appropriate driving licenses and adhere to the road safety rules. -Drivers should drive slowly (40km/hour or less) and be on the lookout for wildlife and people, especially children, in the area. -Ensure that the site access roads are well equipped with temporary road signs. -Project vehicles should be in a roadworthy condition and serviced regularly to avoid accidents owing to mechanical faults. -Vehicle drivers should only make use of the designated site access roads provided and as agreed. -Vehicle drivers should not be allowed to operate vehicles while under the influence of alcohol. -Project vehicles should be parked within the boundary or demarcated areas for such purpose. -Deliveries from and to the site should be done optimally during weekdays and between the hours of 8 am and 5 pm. -The site access road(s) should be maintained to an acceptable standard for the vehicles.	-No complaints from members of the public regarding vehicular traffic issues related to the project activities. -All personnel operating the project vehicles and machinery are appropriately licensed and in possession of valid driving licenses. -Demarcated areas for parking, offloading, and loading zones are on sites. -No creation of unnecessary tracks on site.	-Exploration Manager -ECO	Throughout the exploration phase

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
Local roads	Overuse and maintenance	-The heavy trucks transporting materials and services to the site should be scheduled to travel a maximum of twice a week to avoid daily travelling to the site, unless in cases of emergencies. -Consider frequent maintenance of local roads in the area to ensure that the roads are in good condition for other road users, such as travellers and tourists from outside the area.	-Visible efforts of maintaining access and communal roads by the Proponent	-Proponent -Exploration Manager	Throughout exploration, when necessary
Occupational Health and Safety	General health and safety associated with project activities in both phases	-During inductions, provide project workers with an awareness training of the risks of mishandling equipment and materials on site and the health & safety risks associated with their respective jobs. -Project workers should be properly equipped with adequate and appropriate personal protective equipment (PPE) such as coveralls, gloves, safety boots, earplugs, dust masks, safety glasses, etc. -Heavy vehicle, equipment, and fuel storage sites should be properly secured, and appropriate warning signage should be placed where visible. -Drilled exploration holes that will no longer be in use or are to be used later after being drilled should be properly marked for visibility and capped/closed off. -Trenches should be temporarily fenced off during sampling, and once completed, they should be backfilled thereafter -Drill cuttings and excavated materials should be put back into the hole and the holes filled and levelled, and trenches backfilled respectively. -An emergency preparedness plan should be compiled, and all personnel appropriately trained. -Workers should not be allowed to enter the working sites when under the influence of alcohol, as this may lead to mishandling of equipment, which results in injuries and other health and safety risks.	-Comprehensive health and safety plan for all exploration activities compiled. -Quarterly refresher training on health & safety -Occupational Health and Safety Personnel Health and Safety Training -Availability of fully-furnished first aid kits -Trained worker to administer first aid	-Proponent -Exploration Manager -ECO	Throughout exploration and training offered as and when required

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
		-Ensure that goods and projected loads are securely fastened to vehicles to avoid falling and injuring people. -Warning signage should be erected at hazardous site areas such as open trenches. -The site areas that are considered temporary risks should be equipped with "danger" or "cautionary" signs written in languages such as Afrikaans, Damara-Nama, and English.			
	Potential increase in the prevalence of HIV and AIDS, as well as other sexually transmitted diseases (STDs) prevalence	-Engage workers in sexual health talks and training about the dangers of engaging in unprotected sexual relations, which result in contracting HIV/AIDS and other sexually transmitted infections. -Provision of condoms and sex education through the distribution of pamphlets and health training. These pamphlets can be obtained from the nearest local health facility in Arandis and Usakos.	-No new infections recorded linked to project workers -Occupational health and safety personnel -Sex and Health Education/Awareness -Provision of condoms at the campsite	-Exploration Manager -ECO	Throughout exploration
	Accidental fire outbreak	-Portable and serviced fire extinguishers should be provided at the site and camp. -No open fires to be created by project personnel on-site. -Consider using gas or paraffin cookers to prepare food instead of open fires. The cook/stove's fire should be put out before leaving the camp. -Make provision for smoking areas for crew members who smoke. This is to ensure that the cigarettes' fire is completely put out and disposed of in the allocated bins at the smoking area. -Potential flammable areas and structures, such as fuel storage tanks, should be marked as such with visible signage. -Raise awareness among workers on the impact of careless handling of fires and flammable substances in the fire.	-No wildfires recorded (due to presence of workers) -Fire extinguishers (1 per vehicle) and 1 per working site	-Proponent -ECO	Throughout exploration

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
Archaeology and heritage	Accidental disturbance of archaeological or heritage objects	**The mitigation measures provided herein should be implemented alongside the Archaeological Management Plan (AMP) appended to the AHIA Report for EPL-9885 and EPL-9985.** Impact on archaeology and graves -If any archaeological materials or human burials, or skeletal remains are uncovered during exploration activities, then the work in the immediate area should be halted, the finds would need to be reported to the Heritage Authority, and may require inspection by an Archaeologist. The ECO should have the area fenced off and contact NHC (Tel: +264 61 244 375), National Forensic Laboratory (+264 61 240 461) immediately. -Commonwealth war graves and other old graves/stone cairns were recorded within the landscape close to EPL-9985 (Figure 5-13 of the Scoping Report), and thus considered highly sensitive. Therefore, a **buffer zone of 1km radius is highly recommended and should be implemented during the exploration phase on EPL-9985.** -A buffer zone of 200m radius is highly recommended and should be implemented around any stone circles and unmarked graves during the exploration phase. -Under no circumstances shall any artefacts be removed, destroyed, or interfered with by anyone on the site; and Exploration Contractors and workers shall be advised of the penalties associated with the unlawful removal of cultural, historical, archaeological, or palaeontological artefacts, as set out in the National Heritage Act (Act No. 27 of 2004), Section 52 (2). -Any pile of stones or mound of earth looking even remotely like a grave should be avoided at all costs. -A “No-Go-Area” should be put in place where there is evidence of sub-surface archaeological materials, archaeological sites, gravesites, historical, rock paintings, cave/rock shelters, or past	-Preservation of all artefacts and objects that are discovered on and around the project site -Salvage equipment -Archaeologist to recommend further actions -Flag tapes -GPS (site marking)	-Exploration Manager -ECO -Operator (Driller or Excavating personnel) \	As and when required, i.e., before site set up, and during exploration.

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
		human dwellings. It can be a demarcation by fencing off or avoiding the site completely by not working closely or near the known site. The 'No-Go Option' might have a NEUTRAL impact significance. -Cognizance must be taken of the larger cultural & heritage landscape of the area to avoid the destruction of previously undetected heritage sites. Should any previously undetected heritage or archaeological resources be exposed or uncovered during the development phases of the proposed project, these should immediately be reported to the heritage specialist or heritage authority (National Heritage Council of Namibia). -The Proponent and Contractors should adhere to the provisions of Section 55 of the National Heritage Act in the event significant heritage and cultural features are discovered in the course of developmental works. -It should be noted that the subterranean presence of archaeological and/or historical sites, features, or artefacts is always a distinct possibility. Care should therefore be taken when development commences that if any of these are discovered, work on the site ceases immediately and a qualified archaeologist is called in to investigate the occurrence. -Bi-annual auditing is highly recommended.			
Littering and waste management (general waste and sanitation)	Environmental Pollution	-Responsibly dispose of waste and do not litter. -After each day's work, ensure that there are no wastes left on the working sites or scattered around the camp. -All domestic and general operational waste produced daily should be contained on-site until it is transported to designated waste sites. -No waste may be buried or burned on site or anywhere else. -The exploration site should be equipped with separate waste bins for hazardous and general/domestic waste.	-No visible litter around the project area -Provision of sufficient waste storage containers -Waste management awareness -Waste disposal permits to municipalities -Environmental, Health, and Safety Statements and Policy	-ECO -Exploration Manager	Throughout the exploration phase

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
		-Oil spills should be taken care of by removing and treating the soil affected by the spill. -A penalty system for the irresponsible disposal of waste on-site and anywhere in the area should be implemented. -Ensure careful storage and handling of hydrocarbons on site. -An emergency plan should be available for major/minor spills at the site during operational activities.			
	Wastewater is generated by exploration workers living on-site.	-Potential contaminants such as hydrocarbons and wastewater should be contained on site and disposed of per municipal wastewater discharge standards so that they do not contaminate surrounding soils and eventually groundwater. -No open defecation is allowed on and around the site. -Sewage waste should be stored as per the portable chemical toilets supplied on site and regularly disposed of at the nearest treatment facility -Provide sufficient toilet facilities for workers (mobile/portable chemical toilet if possible). -Emptying of chemical toilets according to the manufacturer's specifications.	-Adequate toilet and basic ablution facilities on site -Chemical toilets Sewage removal operator -Waste treatment agents/chemicals.	-Exploration Manager -ECO	Throughout the exploration phase
Air Quality	Dust generation	-Exploration vehicles within the area should not be driven at a speed of more than 40 km/h to avoid dust generation. -When and if the project reaches the advanced stages of exploration, a reasonable amount of water should be used on gravel roads, using regular water sprays on gravel routes and near exploration sites to suppress the dust that may be emanating from certain exploration areas on the EPLs. -Dust masks, eye protective glasses, and other respiratory personal protective equipment (PPE) such as face masks should be provided to the workers in on-site drilling areas, where they are exposed to dust.	-No complaints from the public about vehicle emissions and dust generation. -Visible efforts to curb dust -Complaint's logbook -Dust suppressant (Water)	-Exploration Manager -ECO	Throughout the exploration phase

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
		-Excavating equipment should be regularly maintained to ensure drilling and excavation efficiency and to reduce dust generation and harmful gaseous emissions.			
Noise	Nuisance	-Noise from operations' vehicles and equipment on the sites should be at acceptable levels. -Exploration hours should be restricted to between 07h30 and 17h00 to avoid noise and vibrations generated by exploration equipment and the movement of vehicles before or after hours. -When operating the drilling machinery onsite, workers should be equipped with personal protective equipment (PPE) such as earplugs to reduce exposure to excessive noise.	-Complaint's logbook -Noise protective equipment for workers	-ECO -Exploration Manager	Throughout exploration

Table 5-2: The Mitigation measures for site rehabilitation

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
Progressive Rehabilitation and Decommissioning Phase					
Rehabilitation	Disturbance and damage to the land site land	-All drilled boreholes and excavated pits related to the project activities should be capped and backfilled, respectively. -All waste generated and stored on site during exploration activities should be disposed of at the nearest solid waste management sites. -The stockpiled topsoil should be levelled soon after completion of works at sites. -Any temporary setup on site should be dismantled, and the area rehabilitated as far as practicable, to its original state. -Explored areas on worksites should be progressively rehabilitated by stockpiling and backfilling.	-Capped boreholes and backfilled pits/trenches -Excavators and other backfilling/demolishing machinery -No sign of waste or littering seen on site and around site areas. -Carrying away of waste, and removal of vehicles and equipment from the site	-Proponent -Exploration Manager	Progressive rehabilitation is done throughout the exploration phase, and complete decommission and rehabilitation are done after completion of exploration works.

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
		-Provision of both financial and technical resources for progressive rehabilitation. -The #Gaingu Conservancy and Oe-Gan Traditional Authority representatives should be consulted to approve and sign off on Site Rehabilitation Completion	-No stockpiled topsoil (topsoil is levelled after completion of each work) -Campsite dismantled, -Campsite dismantled, site levelled, and materials taken away from the site -Visible signs of stockpiled topsoil -Record of trenches excavated, and boreholes drilled -Waste containers on sites -Photo records of backfilled sites -Records of finances set aside for decommissioning activities		

5.3 Environmental Monitoring Actions

To ensure that the implementation of recommended environmental management measures is working and produces the desired results (minimizing the "medium" and upholding the "low" significance ratings of impacts), certain key impacts will need to be monitored and reported on. The environmental aspects to be monitored are shown in Table 5-3

Table 5-3. The ‘’*Observation, compliance status, and ‘’Recommended Action*’’ columns will be completed for every monitoring done on site.

Monitoring reports are to be compiled by the project ECO, audited by an Independent Environmental Consultant, and submitted to the DEAF for archiving on a bi-annual basis (every 6 months throughout the project operations) or as required by the Environmental Commissioner (as per the ECC conditions). The environmental components or features provided in the Table will be updated accordingly once the project commences.

Table 5-3: Monitoring of Biophysical and Social Aspects referred to in the assessment (modified after Resilient Environmental Solutions, 2019)

Impact	Parameter to be Monitored	Monitoring Objective	Key Performance Indicator (KPI)	Methods of Monitoring	Frequency	Responsible Party	Reporting structure	Threshold	Action if the threshold is exceeded
Water and soil pollution									
Soil pollution by hydrocarbons (fuel and lubricant spills)	Complaints from land custodians/users or occupiers of land within the project sites	To prevent contamination of site soils	No complaints from land custodians or the public about visible oil spills	Inspection of complaints logbooks	Weekly	ECO	ECO-> Exploration Manager	A logged complaint	Further consultations with the land custodians or users/communities
Wastewater is generated by exploration workers living on-site.	Open defecation and urination.	To prevent environmental pollution	Adequate toilet facilities on site. Complaints from the public about open defecation.	Visual observation. Inspection of the complaint's logbook.	Weekly	ECO	ECO-> Exploration Manager	A logged complaint	Clean-up of affected areas.
Soils									
Loss of topsoil	Increased loss of soil	To prevent loss of topsoil	No proliferation of informal vehicle tracks. No new erosion gullies	Visual observation	Weekly	ECO	ECO-> Exploration Manager	Proliferation of new vehicle tracks Formation of new gullies in work areas	Rehabilitation of the affected explored areas
Air quality (Dust)									
Increase in dust generation,	Complaints from the public about	To reduce public complaints and	No complaints from the	Inspection of the	Weekly	ECO	ECO-> Exploration Manager	A logged complaint	Dust suppression around working

Impact	Parameter to be Monitored	Monitoring Objective	Key Performance Indicator (KPI)	Methods of Monitoring	Frequency	Responsible Party	Reporting structure	Threshold	Action if the threshold is exceeded
which might negatively affect occupational and residential respiratory health.	an increase in dust generation.	prevent negative changes in air quality due to exploration activities	public about increased dust generation.	complaint's logbook.					areas to reduce fugitive dust
Hydrocarbon emissions from vehicles	Complaints from the public about increased vehicle fumes	Same as above.	No complaints from the public about increased vehicle emissions	Inspection of the complaint's logbook.	Weekly	ECO	ECO-> Exploration Manager	A logged complaint	Servicing of vehicles and machinery by a certified service provider
Poaching (Illegal hunting)									
Illegal hunting of wildlife	Reported poaching incidents by the project team	To prevent illegal hunting of wildlife	Incident reports of illegal hunting of wildlife by exploration workers.	Consultation with the local Police Service for reported incidents of poaching.	Weekly	ECO	ECO-> Exploration Manager > local Police Service (Anti-poaching Unit)	An incident report was logged with the local Police Service	Appropriate action will be decided by the local Police Service
Habitat loss (Biodiversity)									
Localised loss of habitat and vegetation	Loss of habitat	To prevent loss of habitat outside areas of interest	No disturbance to unmarked areas within the project area	Visual observation	Weekly	ECO	ECO -> Exploration Manager	Vegetation clearance outside of marked areas.	Rehabilitation of affected areas to the satisfaction of the ECO
Occupational and Public Health and Safety									

Impact	Parameter to be Monitored	Monitoring Objective	Key Performance Indicator (KPI)	Methods of Monitoring	Frequency	Responsible Party	Reporting structure	Threshold	Action if the threshold is exceeded
No health and safety plan for exploration activities.	Compiled a health and safety plan for exploration activities.	To prevent health and safety impacts	No significant health and safety incidents (i.e., serious injuries or loss of life)	Visual observation Inspection of complaints logbooks	Daily/ weekly	ECO and Exploration Manager	ECO-> Exploration Manager	Health and safety incident	Remedy the consequences
Potential increase in the outbreak of wildfires due to project activities	Occurrence of wildfires	To prevent environmental damage caused by wildfires	No wildfires recorded (due to the presence of exploration workers)	Visual observation	Daily	ECO	ECO -> Exploration Manager -> local Police Service	Outbreak of wildfires due to the exploration workers	Rehabilitation of affected areas
Archaeology and cultural heritage									
Potential disturbance of archaeological and cultural heritage resources	Presence or unearthing of archaeological or cultural heritage resources	To prevent the destruction of artefacts and sites	Preservation of all artefacts and sites that are discovered within the site boundary or around the project site area	Inspection of the records of findings	Daily	ECO Operator / Contractor	Operator->Foreman-> Superintended->ECO->Project Archaeologist -> National Heritage Council (NHC)	Unearthing of archaeological or cultural heritage resources	Cease all activities on site and wait for NHC to inspect the site and give further instructions/actions
Employment creation and Corporate Social Responsibility (CSR)									
Creation of employment, procurement of goods and services	Employment opportunities -Community projects support	To ensure that locals benefit from the Project	Employment, community support, and local and regional procurement	Inspection: employed, procurement & community	Monthly	Exploration Manager	Exploration Manager or Proponent	Number of CSR projects	Open communication and reasonable requests/proposals

Impact	Parameter to be Monitored	Monitoring Objective	Key Performance Indicator (KPI)	Methods of Monitoring	Frequency	Responsible Party	Reporting structure	Threshold	Action if the threshold is exceeded
	- Local/regional procurement			project records					
Noise									
Potential increase in noise	Above ambient noise levels.	To ensure that the generated noise does not disturb residents.	Complaints from residents about the noise generated.	Inspection of the complaint's logbook	Weekly	ECO	ECO -> Exploration Manager	A logged complaint about above normal noise levels	Revision of site activities
Vehicular Traffic									
Increase in traffic density on declared Roads Authority (RA) roads or damage to these.	Complaints from the public about the increase in traffic on the roads. Complaints about damage to RA roads caused by the movement of project vehicles and machinery.	To ensure continued ease of access to local roads by residents/communities.	No complaints from the public about the increase in traffic due to exploration activities	Inspection of logbooks	Weekly	ECO	ECO -> Exploration Manager -> Roads Authority	A logged complaint about a traffic increase or damage to RA roads	Find alternative access roads for the workforce. Rehabilitation of affected roads
HIV and AIDS									
Potential increase in HIV and	New HIV or sexually transmitted	To prevent new infections in the area	No new HIV or STIs	Liaison with local health facilities	Monthly	ECO	ECO -> Exploration Manager -> Ministry of Health and Social Services	Recorded new HIV or STIs linked	Continued sex education and

Impact	Parameter to be Monitored	Monitoring Objective	Key Performance Indicator (KPI)	Methods of Monitoring	Frequency	Responsible Party	Reporting structure	Threshold	Action if the threshold is exceeded
AIDS prevalence.	infections (STIs)		infections recorded					to exploration workers	provision of condoms
Environmental Pollution (Littering)									
Environmental pollution from solid waste during exploration activities.	Scattered litter	To prevent littering of the general project area	No visible litter around the project area	Visual observation	Daily	ECO	ECO -> Exploration Manager	Visible littering around the project site	Clean-up of the affected areas and ensuring workers utilise the waste containers provided.
Visual									
Visual impact owing to the project's exploration activities	Contrasting landscape (eyesore to travellers on the local roads	To prevent and or reduce the appearance of contrasting land scars	Reduction of and minor contrasting landscapes in the project site areas	Visual observation	Weekly	ECO	ECO -> Exploration Manager	Major and very visible contrasting land scars on the site areas	Effective implementation of the provided measures and continual improvements.
Site Rehabilitation									
Soil and land disturbance because of exploration activities.	Stockpiled topsoil and very disturbed site areas	To prevent major soil/land damage by project activities	No major soil and land disturbance	Visual observation	Daily	ECO	ECO -> Exploration Manager	Visible soil and land disturbance	Effective progressive levelling of topsoil and backfilling of pits/holes

Appendix 1: Chance Finds Procedure (CFP) After Kinahan, 2020

Areas of proposed activities are subject to heritage survey and assessment at the planning stage. These surveys are based on surface indications alone, and it is therefore possible that sites or items of heritage significance will be found during development work. The procedure set out here covers the reporting and management of such finds.

Scope: The "*chance finds*" procedure covers the actions to be taken from the discovery of a heritage site or item to its investigation and assessment by a trained archaeologist or other appropriately qualified person.

Compliance: The "chance finds" procedure is intended to ensure compliance with relevant provisions of the National Heritage Act (27 of 2004), especially Section 55 (4): "*a person who discovers any archaeological …. object ……must as soon as practicable report the discovery to the Council*". The procedure of reporting set out below must be observed so that heritage reported to the NHC is correctly identified in the field.

- **National Heritage Council (NHC) of Namibia: +264 61 244 375**
- **NHC of Namibia (Technical Office): +264 61 301 903**
- **National Museum: +264 61 276 800**
- **National Forensic Laboratory: +264 61 240 461.**

Archaeological material must NOT be touched. Tampering with the materials is an offence under the Heritage Act and punishable upon conviction under the law.

Responsibility:

Operator:	To exercise due caution if archaeological remains are found
Foreman:	To secure the site and advise management timeously
Superintendent:	To determine the safe working boundary and request an inspection
Archaeologist:	To inspect, identify, advise management, and recover remains

Procedure:

Action by a person identifying archaeological or heritage material:

a) If operating machinery or equipment, stop work

b) Identify the site with flag tape

c) Determine GPS position if possible

d) Report findings to the foreman

Action by the foreman

a) Report findings, site location, and actions taken to the superintendent

b) Cease any works in the immediate vicinity

Action by the superintendent

a) Visit the site and determine whether work can proceed without damage to findings

b) Determine and mark the exclusion boundary

c) Site location and details to be added to the project GIS for field confirmation by the archaeologist

Action by an Archaeologist

a) Inspect the site and confirm the addition to the project GIS

b) Advise NHC and request written permission to remove findings from the work area

c) Recovery, packaging, and labelling of findings for transfer to the National Museum

In the event of discovering human remains

a) Actions as above

b) Field inspection by an archaeologist to confirm that the remains are human

c) Advise and liaise with NHC and Police

d) Recovery of remains and removal to the National Museum or the National Forensic Laboratory, as directed.

APPENDIX 2: PHOTOS OF SOME IDENTIFIED PROTECTED TREE SPECIES THAT WERE OBSERVED DURING THE SITE VISIT (A PERMIT SHOULD BE APPLIED FOR FROM THE MEFT'S DIRECTORATE OF FORESTRY BEFORE REMOVING THEM, IF NECESSARY)

Quiver tree found within EPL-9985 and Rock corkwood (*Commiphora Saxicola*) in both EPLs: *Unnecessary removal of all plants (vegetation) should be avoided at all.*